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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,141	12/01/2003	Grit Schwalbe	INF-119	1224

48154 7590 01/03/2006

SLATER & MATSIL LLP
17950 PRESTON ROAD
SUITE 1000
DALLAS, TX 75252

EXAMINER

PHAM, THANHHA S

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Supplemental
Notice of Allowability**

Application No.

10/724,141

Examiner

Thanhha Pham

Applicant(s)

SCHWALBE ET AL.

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/13/2005 and interview dated 12/23/2005.
2. ☒ The allowed claim(s) is/are 1-15 and 17-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

SUPPLEMENTAL EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

As being discussed with James Kesterson in a telephonic interview dated 12/23/2005, the application has been amended as follows to correct grammatical errors to claims 1, 11 and 15 in the previous Examiner Amendment mailed on 12/13/2005.

- In claim 1, line 16 as made in the amendment mailed on 12/13/2005, delete "lost" and replace with -- loss --
- In claim 11, line 14 as made in the amendment mailed on 12/13/2005, delete "lost" and replace with -- loss --
- In claim 15, lines 16-17 as made in amendment mailed on 12/13/2005, delete "lost" and replace with -- loss --

Allowable Subject Matter

2. Claims 1- 15 and 17-20 are allowed.
3. The following is an examiner's statement of reasons for allowance:
 - Recorded Prior Art fails to disclose or suggest the combination of the process steps of method for patterning dielectric layers on semiconductor substrate as recited in the base claims 1 and 11 including: incinerating the resist mask in an oxygen plasma, the incinerating being carried out at a temperature which is

selected to be approximately 200oC or lower, and the oxygen plasma being generated from a gas which at least contains oxygen gas and a forming gas, the oxygen gas being present in an amount of between approximately 60% and 40% by volume and the forming gas being present in an amount of between 40% and 60% by volume, so that a patterned dielectric layer is obtained, the incinerating minimizing total loss of the patterned dielectric layer in a subsequent step of cleaning; and cleaning the patterned dielectric layer using aqueous dilute hydrofluoric acid.

- Recorded Prior Art fails to disclose or suggest the combination of the process steps of method for a patterning dielectric layer on a semiconductor substrate as recited in the base claim 15 including: incinerating the resist mask in an oxygen plasma, the incinerating being carried out at a temperature which is selected to be approximately 200oC or lower, and the oxygen plasma being generated from a gas which at least contains oxygen gas and a forming gas, the oxygen gas being present in an amount of between approximately 60% and 40% by volume and the forming gas being present in an amount of between 40% and 60% by volume, so that a patterned dielectric layer is obtained to form a contact hole, the incinerating minimizing total loss of the patterned dielectric layer in a subsequent step of cleaning; and cleaning the patterned dielectric layer using aqueous dilute hydrofluoric acid.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'Thanhha Pham', with a large loop and a horizontal line extending to the right.

Thanhha Pham